Denosumab is a more cost-effective treatment alternative in an elderly PMO population. Compared to no treatment, zoledronic acid, and alendronate, denosumab can improve care in elderly PMO patients above 75 years and at the same time lower overall treatment costs in Sweden.

PMS37

ECONOMIC EVALUATION MODEL OF BIOLOGIC THERAPIES FOR MODERATE TO SEVERE PSORIATIC ARTHRITIS IN GERMANY

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OBJECTIVES: To determine the cost-effectiveness of biologic drugs for moderate to severe psoriatic arthritis (PsA) using a 40-year German health care perspective. **METHODS:** A network meta-analysis of 8 biologics RCTs determined short-term efficacy using Psoriasis Area and Severity Index 75% (PASI75) and American College of Rheumatology (ACR) responses and Health Assessment Questionnaire (HAQ) and PASI improvements. Published evidence and assumptions were used to predict long-term efficacy using a decision analytic model. Costs included drug acquisition, administration, monitoring, and hospitalisation. Incremental cost-effectiveness ratios (ICERs) were calculated using Quality Adjusted Life Years (QALYs), function (HAQ-adjusted life years), and years in PASI75 response. **RESULTS:** For the QALY analysis, golimumab was extended dominated by adalimumab. The incremental costs and QALYs for adalimumab vs. palliative care were €32046 and 0.671, producing an ICER of €47728/QALY. Etanercept was estimated to provide marginally more QALYs (0.060) at an additional €3461 (ICER of €57380/QALY vs. adalimumab). Although infliximab was estimated to give the most QALYs (0.031 more than etanercept), the cost was an additional €8046 (ICER for infliximab of €260940/QALY vs. etanercept). Results for the HAQ-adjusted life year analysis were similar, where adalimumab (€293/HAQ life year) had similar results in comparison to etanercept (€292/HAQ life year). For years in PASI75 response, etanercept became dominated, golimumab gave 2.308 incremental PASI75 life years at an incremental cost of €29463 (ICER of €12765/PASI75 life year vs. palliative care), adalimumab gave 2.704 incremental PASI75 life years at an incremental cost of €32064 (ICER of €11851/PASI75 life year vs. palliative care), and infliximab became the optimal strategy with 4.407 incremental QALYS at an additional €43553 (ICER of €9883/PASI75 life year vs. palliative care). **CONCLUSIONS:** Using QALYs, which combine the skin and joint aspects of disease, adalimumab and etanercept were the most cost-effective biologic strategies; infliximab gave marginally more benefit at a much higher cost.

PMS38

COST-EFFECTIVENESS OF TAPENTADOL FOR SEVERE CHRONIC NON-CANCER PAIN IN BELGIUM

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OBJECTIVES: To assess the cost-effectiveness of tapentadol prolonged release compared to morphine, oxycodone, hydromorphone, transdermal buprenorphine [TDB], and transdermal fentanyl [TDF] for the treatment of severe chronic non-cancer pain in Belgium. **METHODS:** A one year Markov transition state model with 4-week cycles was built. Four health states were defined: 'no withdrawal and no adverse events treated', 'occurrence of adverse events (AEs) with need for medical treatment', 'withdrawal due to AEs', and 'withdrawal due to lack of efficacy'. Patients who were lacking efficacy or had poor tolerability switched to an alternative 2nd line opioid (oxycodone, morphine, hydromorphone, TDB or TDF). 3rd line therapy was the absorbing state. Data regarding efficacy, tolerability and utility values (EQ-5D) were derived from clinical trials and published literature. Switch rates to 2nd line therapies and resource consumption were estimated by clinical experts. Costs were calculated from the health care payer perspective including patients' co-payments as stated in the Belgium pharmacoeconomic guidelines. One-way, scenario, and probabilistic sensitivity analyses were conducted. **RESULTS:** Compared to oxycodone (direct comparison data), tapentadol had almost the same cost but higher effectiveness, resulting in the incremental cost-effectiveness ratio (ICER) of 6 EUR per QALY gained. The ICERs of tapentadol versus TDB, TDF, hydromorphone and morphine equaled to 2,407, 5,811, 19,852, and 23,182 EUR per QALY gained, respectively. In the univariate sensitivity analysis, resource consumption, probabilities and utilities were varied for ±50%, ±20% and ±10%, respectively. Conclusions about the cost-effectiveness of tapentadol remained robust, especially when compared to oxycodone, TDF and TDB, which account for ca. 90% of the total strong opioid market in Belgium. The ICER in these cases did not exceed 10,000 EUR per QALY gained. **CONCLUSIONS:** To improve pain relief and quality of life in patients with severe chronic pain tapentadol appears to be the favourable and cost-effective treatment option in Belgium.

PMS39

COST-EFFECTIVENESS ANALYSIS OF CERTOLIZUMAB PEGOL IN PATIENTS WITH RHEUMATHOID ARTHRITIS FROM A BRAZILIAN PRIVATE PERSPECTIVE

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OBJECTIVES: Currently, anti-TNFα monoclonal antibodies are the mainstay of therapy in patients with active rheumatoid arthritis (RA) and inadequate response to methotrexate (MTX) alone. The purpose of this analysis is to evaluate the cost-effectiveness of certolizumab pegol (CZP) versus other anti-TNF (adalimumab[ADA], infliximab [INF] and etanercept [ETA]) as adjunctive therapy to MTX from the perspective of the Brazilian private health care system. **METHODS:** Cost-effectiveness for 52 weeks of treatment was evaluated based on the ACR20 response rate at week 24 based on main published RCTs for each anti- TNF. An indirect comparison was performed using Glenny et al method1. Annual drug costs for each aTNF were calculated from their published ex-factory prices and their recommended dosing schedule in the Brazilian product information. For the calculation of the annual INF cost, the initial weight of the patient assumed for the model was assumed to be 65Kg, with no increment of the doses after 22 weeks. Results are presented in USD (June 11th, 2012 exchange rate) annual costs and incremental cost-effectiveness ratios (ICER's). A sensitivity analysis was made on price discount rate. **RESULTS:** Annual costs were estimated in USD $12,619, USD $39,305, USD $24,267 and USD $35,617 for CZP, ADA, INF and ETA, respectively. Adjusted by indirect comparison of ACR20 response were 77% for CZP and 67%, 61% and 45% for ADA, INF and ETA, respectively. The cost effective ratio was USD $16,484 for CZP and USD $79,742, USD $59,326, USD $40,299 for ETA, ADA and INF respectively. The cost-effectiveness analysis demonstrated that CZP was a dominant strategy compared with ADA, INF and ETA. **CONCLUSIONS:** Certolizumab pegol (CZP) is a cost- saving anti-TNF option for treating RA from a Brazilian private health care perspective.

PMS40

COST-EFFECTIVENESS OF DENOSUMAB FOR THE TREATMENT OF MALE OSTEOPOROSIS (MOP) IN THE ELDERLY IN SWEDEN

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OBJECTIVES: Cost-effectiveness of denosumab versus other treatments in MOP in > 75-year-olds in Sweden was evaluated from a third-party payer perspective. **METHODS:** A lifetime cohort Markov model was developed with seven health states: well, hip fracture, vertebral fracture, other osteoporotic fracture, post hip fracture, post vertebral fracture, and dead. During each cycle, patients could have a fracture, remain healthy, remain in a post fracture state or die. Background fracture risks, mortality rates, persistence rates, utilities, medical and drug costs were derived using published sources. BMD improvements have been shown to be similar across MOP and post-menopausal osteoporotic (PMO) populations; therefore in the absence of well-powered trials evaluating fracture risk reduction in MOP, efficacy was obtained from studies in PMO women. Lifetime expected costs and quality-adjusted life-years (QALYs) were estimated for denosumab, generic alendronate, generic risedronate, ibandronate, zoledronate, strontium ranelate and teriparatide. On average, patients in the model were 78 year-old men, with bone mineral density T-score≈-2.12 and prevalent vertebral fracture of 23%. In the base-case, the model assumed patients could receive treatment effects up to 5 years after discontinuation, except on teriparatide (only 2 years). Costs and QALYs were discounted at 3% annually. Extensive sensitivity analyses were conducted. **RESULTS:** Total lifetime costs for denosumab, alendronate, zoledronate, strontium ranelate, risedronate, ibandronate and teriparatide were €31,324, €34,834, €35,592, €35,939, €36,008, €37,211 and €38,632, respectively. Total QALYs were 5.22, 5.12, 5.15, 5.12, 5.11, 5.09 and 5.19, respectively. Denosumab dominated all treatments by having lower costs and higher QALYs. Denosumab dominated generic alendronate (next least expensive strategy) in the one-way sensitivity analyses also. The probability of denosumab being cost-effective compared to the other treatments at a threshold of €66,000/QALY was 99.0%. **CONCLUSIONS:** Denosumab dominated almost all comparators, including generic bisphosphonates in the Swedish MOP population > 75 years-old.

PMS41

COST-EFFECTIVENESS OF DENOSUMAB IN PREVENTING OSTEOPOROTIC FRACTURES IN POSTMENOPAUSAL WOMEN FROM THE PRIVATE HEALTH CARE SETTING PERSPECTIVE IN BRAZIL

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OBJECTIVES: To assess the cost-effectiveness of denosumab and zoledronate in preventing fractures related to osteoporosis in postmenopausal women from the private health care sector perspective in Brazil. **METHODS:** A previously validated Markov model comprising eight health states (no fracture, hip, vertebral, wrist and other osteoporotic fractures, post hip and post vertebral fractures, and death) quantified lifetime costs and benefits within six-month intervals. Analyzed population consisted of postmenopausal women ≥72 years. Age-related risk fracture was modeled and fracture-specific risk reductions of each targeted therapy were computed. Efficacy data were derived from published randomized clinical trials. The analysis included direct costs using ex-factory drug prices. Medical and laboratory costs came from the Brazilian Medical Association reimbursement list. Fracture-related (i.e., hospitalization, surgery) and follow-up (i.e., rehabilitation) costs were extracted from a private health care database (BI2im). Costs were reported in 2012 Brazilian currency (1BRL=0.52USD). Outcomes assessed were 10-year fracture event incidence and quality-adjusted life years (QALYs). Costs and benefits were discounted 5% yearly. Univariate and multivariate (probabilistic) sensitivity analyses tested model robustness. **RESULTS:** Average morbidity costs were BRL2,722 and BRL2,839 for denosumab and zoledronate, respectively. Intervention costs were BRL5,153 for denosumab and BRL5,481 for zoledronate. Lifetime cost difference between alternatives was BRL446 per patient treated. Ten-year fracture incidence was lower with denosumab: reductions of 0.5% and 1.5% for hip and vertebral fractures, respectively, over zoledronate. Average QALYs were 6.861 and 6.841 for denosumab and zoledronate. Denosumab reduced fracture incidence and improved QALYs at a lower cost. Denosumab remained cost-efffective after changes in individual model parameters (up to 20% variability), considering a willingness-to-pay of BRL57,000/QALY gained (3x Brazilian GDP/capita). Multivariate sensitivity